

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of driving a liquid crystal display, comprising:
registering a plurality of modulated data in a look-up table;
deriving a modulated data band including one modulated data having a gray scale
approximately corresponding to a gray scale value of source data from the plurality of the
modulated data and other modulated data adjacent to the one modulated data in [[a]] horizontal
and vertical directions within the look-up table; and
carrying out first and second approximations based on the modulated data band to derive
an approximate modulated data not registered in the look-up table, thereby modulating the source
data using the approximate modulated data.
2. (Original) The method according to claim 1, further comprising:
dividing the source data into most significant bits and least significant bits; and
delaying each of the most significant bits and the least significant bits for a frame period.
3. (Previously Presented) The method according to claim 2, further comprising,
comparing the most significant bits of a current frame with those of the delayed frame within the
look-up table to derive the modulated data band in accordance with the compared result.
4. (Previously Presented) The method according to claim 1, wherein the carrying out
first and second approximations includes:
carrying out the first approximation using current least significant bits along the
horizontal direction within the modulated data band to derive two first approximate values
existing on the horizontal direction; and

carrying out the second approximation using previous least significant bits on a line between the two first approximate values to derive the approximate modulated data.

5. (Previously Presented) The method according to claim 1, wherein the carrying out first and second approximations includes:

carrying out the first approximation using previous least significant bits along the vertical direction within the modulated data band to derive two first approximate values existing on the vertical direction; and

carrying out the second approximation using current least significant bits on a line between the two first approximate values to derive the approximate modulated data.

6. (Currently Amended) A driving apparatus for driving a liquid crystal display, comprising:

a look-up table having a plurality of registered modulated data and deriving a modulated data band including one modulated data having a gray scale approximately corresponding to a gray scale value of source data and other modulated data adjacent to the one modulated data in [[a]] horizontal and vertical directions within the look-up table; and

a modulator approximating in the horizontal and vertical directions within the modulated data band to derive an approximate modulated data not registered in the look-up table, thereby modulating the source data using the approximate modulated data.

7. (Original) The driving apparatus according to claim 6, further comprising:

a first frame memory delaying most significant bits of the source data; and

a second frame memory delaying least significant bits of the source data.

8. (Previously Presented) The driving apparatus according to claim 7, wherein the delayed most significant bits are compared with non-delayed most significant bits within the look-up table to derive the modulated data band in accordance with the compared result.

9. (Previously Presented) The driving apparatus according to claim 6, wherein the modulator includes:

a first approximation processor carrying out a first approximation using current least significant bits along the horizontal direction within the modulated data band to derive two first approximate values existing on the horizontal direction; and

a second approximation processor carrying out a second approximation using previous least significant bits on a line between the two first approximate values to derive the approximate modulated data.

10. (Previously Presented) The driving apparatus according to claim 6, wherein the modulator includes:

a first approximation processor carrying out a first approximation using previous least significant bits along the vertical direction within the modulated data band to derive two first approximate values existing on the vertical direction; and

a second approximation processor carrying out a second approximation using current least significant bits on a line between the two first approximate values to derive the approximate modulated data.

11. (Original) The driving apparatus according to claim 6, further comprising:
a data driver applying data modulated by using the modulator to the liquid crystal display;
a gate driver applying a scanning signal to the liquid crystal display; and
a timing controller applying the source data to the modulator and controlling the data driver and the gate driver.

12. (Previously Presented) The driving apparatus according to claim 6, further comprising a single frame memory delaying both most significant bit of the source data and least significant bit of the source data.

13. (Previously Presented) The driving apparatus according to claim 6, wherein the modulator includes a single approximation processor carrying out a first approximation using current least significant bits along the horizontal direction within the modulated data band to derive two first approximate values existing on the horizontal direction, and a second approximation using previous least significant bits on a line between the two first approximate values to derive the approximate modulated data.

14. (Previously Presented) The driving apparatus according to claim 6, wherein the modulator includes:

a first approximation processor carrying out a first approximation using previous least significant bits along the vertical direction within the modulated data band to derive two first approximate values existing on the vertical direction; and

a second approximation processor carrying out a second approximation using current least significant bits on a line between the two first approximate values to derive the approximate modulated data.

15. (Currently Amended) A liquid crystal display, comprising:

a liquid crystal display panel displaying images;

a look-up table having a plurality of registered modulated data and deriving a modulated data band including one modulated data having a gray scale approximately corresponding to a gray scale value of source data and other modulated data adjacent to the one modulated data in [[a]] horizontal and vertical ~~direction~~directions within the look-up table; and

a modulator approximating in the horizontal and vertical directions within the modulated data band to derive an approximate modulated data not registered in the look-up table, thereby modulating the source data using the approximated modulated data.